SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

(Common to B.Tech. – IT, B.E. – CYS)

QUESTION BANK

IV SEMESTER

CS3463 – DATABASE MANAGEMENT SYSTEMS

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SUBJECT : CS3463 – DATABASE MANAGEMENT SYSTEMS

SEM / YEAR: IV / II

UNIT I-INTRODUCTION TO DATABASES AND SQL			
Purpose of Database System – View of data –Database and Application Architecture-Database Administrator– Introduction to Relational model – Structure of Relational Database- Database Schema-Keys – Schema diagram –Introduction to SQL- SQL Data Definition –basic Structure of SQL Queries-Additional Basic operation- Set operation-Null Values- Aggregate Function- Modification of the Database-Intermediate SQL –Join operation-Transactions-Integrity constraints- Trigger.			
PART A			
Q.No	**Questions**	**Level**	**Competence**
1.	What is a database?	BTL 1	Remember
2.	List any five applications of DBMS.	BTL 1	Remember
3.	Define the role of a Database Administrator (DBA).	BTL 1	Remember
4.	State the primary purpose of a database system?	BTL 1	Remember
5.	What does the term "Schema" refer to in a database context?	BTL 1	Remember
6.	What is a primary key in a relational database?	BTL 1	Remember
7.	What is a foreign key in a relational database?	BTL 1	Remember
8.	What is the structure of a relational database?	BTL 1	Remember
9.	Explain the purpose of SELECT statement in SQL?	BTL 2	Understand
10.	Illustrate JOIN operation in SQL?	BTL 2	Understand
11.	Which aggregate function in SQL is used to calculate the average value?	BTL 1	Remember
12.	What is the purpose of the INSERT INTO SQL statement?	BTL 1	Remember
13.	What is meant by the term "NULL" in SQL?	BTL 1	Remember
14.	How does a schema diagram help in understanding a database structure?	BTL 2	Understand
15.	Describe the role of a Database Administrator (DBA) in database management.	BTL 2	Understand
16.	Identify the purpose of WHERE clause in an SQL query?	BTL 2	Understand
17.	Discuss the importance of keys in a relational database?	BTL 2	Understand
18.	Describe the difference between a primary key and a candidate key.	BTL 2	Understand
19.	What is the significance of using aggregate functions like SUM() or COUNT() in SQL queries?	BTL 2	Understand
20.	Explain why transactions important in a database system?	BTL 2	Understand

21.	How does the GROUP BY clause work in SQL?	BTL 2	Understand
22.	What is the difference between INNER JOIN and LEFT JOIN in SQL?	BTL 1	Remember
23.	Outline the role of integrity constraints in ensuring data accuracy.	BTL 2	Understand
24.	What is a trigger in a database, and why is it used?	BTL 1	Remember
	PART B		
1.	Design a database system for a hospital management system (HMS) that addresses the main purposes of a database system such as data storage, data retrieval, data integrity, security, and concurrency control.	BTL 3	Apply
2.	Analyze the different views of a database system (internal, conceptual, and external) and how each view contributes to the overall design and functionality of the database. Compare and contrast the advantages and limitations of these views .	BTL 4	Analyze
3.	Explain in detail about the structure of Database Management System.	BTL 5	Evaluate
4.	Demonstrate in detail about types of DBMS Architecture	BTL 4	Analyze
5.	Determine the roles and responsibilities of a Database Administrator (DBA) in the management and operation of Database Management System (DBMS).	BTL 4	Analyze
6.	Examine how the database schema serves as a blueprint for the database. Discuss its role in organizing data and defining the relationships between tables. How does the schema ensure data consistency and integrity in a relational database?	BTL 4	Analyze
7.	Examine the various types of keys—primary keys, foreign keys, candidate keys, and composite keys—and their roles in maintaining data integrity and enabling efficient querying. Discuss how keys relate to the normalization process and contribute to reducing redundancy and ensuring referential integrity.	BTL 4	Analyze
8.	Evaluate the importance of schema diagrams in understanding and documenting a relational database. How do schema diagrams represent relationships between tables, and why are they essential for both database design and communication with developers and stakeholders?	BTL 4	Analyze
9.	Evaluate the basic structure of SQL queries and the effectiveness of SQL in various types of database operations. Discuss the key components of SQL queries, including the SELECT, FROM, WHERE, GROUP BY, HAVING, and ORDER BY clauses.	BTL 5	Evaluate
10.	Analyze the types of Database schema and Database Schema Designs. Evaluate the importance of a database schema in relational database design.	BTL 4	Analyze
11.	Explain the types of Triggers. Discuss how triggers work by in a database. Using a real-world example, evaluate the advantages and potential challenges of implementing triggers in a database.	BTL 4	Analyze
12.	Apply the concept of integrity constraints in relational database design and explain the different types of integrity constraints with example	BTL 3	Apply

13.	Design a relational database for a Library Management System (LMS) using SQL Data Definition Language (DDL). Your design should include multiple tables to store data related to books, members, and transactions In your design, create the following: i) Table Definitions: Using SQL, create tables for: • Books: Attributes should include Book ID, Title, Author, ISBN, and Genre. • Members: Attributes should include Member ID, Name, Email, Phone Number, and Membership Date. • Transactions: Attributes should include Transaction ID, Member ID (Foreign Key), Book ID (Foreign Key), Issue Date, Return Date, and Due Date. ii) Constraints and Integrity: Define appropriate constraints, including: • Primary keys for each table. • Foreign keys for relationships between tables. • Not null constraints where necessary. • Check constraints on fields like ISBN (valid format) and Due Date (should be after Issue Date). iii) SQL Queries for Data Manipulation: Write SQL queries to: • Insert sample data into the tables. • Update the return date of a specific transaction. Delete a member record, ensuring that their transactions are also handled appropriately (cascading effect).	BTL6	Create
14.	List and explain the properties of Transaction. Discuss how SQL transactions are used to maintain data consistency. Provide examples of how transactions are used in real time applications.	BTL 4	Analyze
15.	Consider the employee database, where the primary keys underlined.employee(empname,street,city)works(empname,company name,salary)company(companyname,city)manages(empname,management) Give an expression in the relational algebra for each request. 1) Find the names of all employees who work for First Bank Corporation.(5) 2) Find the names, street addresses and cities of residence of all employees whowork for First Bank Corporation and earn more than 200000 per annum.(5) 3) Find the names of all employees in this database who live inthe same city as the company for which they work.(6)	BTL-3	Apply
16.	Evaluate the use of SQL aggregate functions (COUNT, SUM, AVG, MAX, MIN) in analyzing data from a relational database. Create a set of queries using these aggregate functions to solve a practical problem in a real-world scenario. What is the impact of using aggregate functions in large datasets and handling NULL values	BTL 5	Evaluate
17.	Create a complex SQL query involving multiple JOIN operations to retrieve data from several related tables in a relational database. In your solution, demonstrate the application of INNER JOIN, LEFT JOIN, RIGHT JOIN, and FULL OUTER JOIN. Additionally, explain the logic behind each JOIN type and how it impacts the	BTL6	Create

	result set. Design a real-world scenario and create SQL queries to extract meaningful insights from the data.		

UNIT II - DATABASE DESIGN

Entity-Relationship model — E-R Diagrams — Enhanced-ER Model — ER-to-Relational Mapping — Functional Dependencies — Non-loss Decomposition — First, Second, Third Normal Forms,Dependency Preservation — Boyce/Codd Normal Form — Multi-valued Dependencies and Fourth Normal Form — Join Dependencies and Fifth Normal Form.

PART – A

Q.No	Question	Level	Competence
1	Define Functional Dependency.	BTL 2	Understand
2	Discuss about 2NF.	BTL 2	Understand
3	Define Normalization.	BTL 2	Understand
4	Define Entity – Relationship Model.	BTL 1	Remember
5	List the properties of decomposition.	BTL 2	Understand
6	State the advantage of the First Normal Form.	BTL 1	Remember
7	Show the disadvantage of the Second Normal Form.	BTL 2	Understand
8	List the anomalies of 1NF.	BTL 1	Remember
9	Assess the significance of cardinality ratio.	BTL 2	Understand
10	Discuss about BCNF.	BTL 2	Understand
11	Define 3 Normal Form.	BTL 1	Remember
12	Write about transitive functional dependency.	BTL 1	Remember
13	Design a Database to illustrate BCNF.	BTL 1	Remember
14	Which normal form is considered adequate for normal relational databasedesign?	BTL 1	Remember
15	Consider the relation scheme R (A, B, C) R (A, B, C) with the followingfunctionaldependencies: A, B→CC→AA, B→CC→A Show that the scheme RR is the Third Normal Form (3NF) but not in Boyce-Code Normal Form (BCNF).	BTL 2	Understand
16	What is the output of following statement? $\sigma_{subject = "database"}(Books)$	BTL 2	Understand
17	Design a Database to illustrate 3NF.	BTL 1	Remember
18	Define trivial dependency?	BTL 2	Understand
19	What is meant by computing the closure of a set of functional dependency?	BTL 1	Remember
20	What is weak entity? Give Example.	BTL 2	Understand
21	Define 4^{th} normal Form.	BTL 2	Understand
22	Evaluate the issues faced in 3^{rd} normal form.	BTL 2	Understand
23	Discuss Lossless Decomposition?	BTL 2	Understand
24	Define Join Dependency.	BTL 2	Understand

PART – B

Q.No	Question	Level	Competence
1	Illustrate with an example what is meant by partial functional dependencyand describe how this type of dependency relates to 2NF. (16)	BTL 5	Evaluate
2	(i)Develop an E-R diagram for a car-insurance company whose	BTL6	Create

	customers ownone or more cars each. Each car has associated with it zero to any numberof recorded accidents. State any assumptions you make. (6) (ii) A university registrar's office maintains data about following entities: (iii) 1)Courses, including number, title, credits, syllabus, and prerequisites; 2)Course offerings, including course number, year, semester, sectionnumber,instructor, timings and classroom; 3)Students, including studentid, name, and program; and Instructors, including identification number, name, department, and title.Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled. Constructan E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints. (10)		
3	Determine about 3NF and BCNF with relevant table structure. (16)	BTL 5	Evaluate
4	Illustrate the multi-value dependency and the fourth normal form-4NF with anexample (16)	BTL-3	Apply
5	(i) Compare the features of file system with database system. (6) (ii)Explain the differences between physical level, conceptual level andview level of data abstraction. (5) (iii)Write short note on attributes of an entity. State an example. (5)	BTL 5	Evaluate
6	Illustrate in detail, the join dependency and the fifth normal form-5NF. (16)	BTL-3	Apply
7	Explain Functional dependency and trivial functional dependency with examples.(16)	BTL 5	Evaluate
8	For the following relation R and set of functional dependencies F:R (A, B, C,D, E), F = {AC -> E, B->D, E-> A)}. Show all candidatekeys. (16)	BTL-3	Apply
9	(i)Summarize the term anomalies. Explain BCNF in detail. (8) (ii)Decide why BCNF is used and how it differs from 3NF.(8)	BTL 5	Evaluate
10	(i)Analyze about lossless Decomposition. (8) (ii) Design your own database to illustrate 3NF.(8)	BTL 4	Analyze
11	Illustrate what is meant by transitive dependency and describe how this type of dependency relates to 3NF. Provide an example to illustrate your answer.(16)	BTL-3	Apply
12	Determine about Functional Dependencies and its impact on the data base.(16)	BTL 5	Evaluate
13	Illustrate in detail about the following (i)Non loss decomposition. (8) (ii)Lossy decomposition. (8)	BTL-3	Apply
14	Analyze the following: (i)Join Dependencies. (8) (ii)5th Normal Form. (8)	BTL 4	Analyze
15	Explain the following terms: a. Fully functional Dependencies (8) b. Transitive Dependencies (8)	BTL 3	Apply

16	Illustrate about schema refinement in database design.(16)	BTL 3	Apply
17	Explain the following: Multi-valued dependencies and Fourth normal forms.(16)	BTL 4	Analyze

UNIT-III - TRANSACTION AND CONCURRENCY CONTROL

Transaction Concepts – ACID Properties – simple transaction model– Transaction Atomicity and Durability – Transaction Isolation –Serializability – Transaction Isolation and Atomicity –Concurrency Control – Lock based protocols – Locking Protocols – Two Phase Locking – Deadlock –prevention– Deadlock Detection and Recovery – Multiple Granularity – Timestamp–Based Protocols.

PART-A

Q.No	Question	Level	Competence
1	Define transaction.	BTL 1	Remember
2	State any two reasons for allowing concurrency in a DBMS.	BTL 2	Understand
3	What is meant by average response time?	BTL 2	Understand
4	Evaluate the situation to roll back a transaction.	BTL 2	Understand
5	What is an aborted state of a transaction?	BTL 2	Understand
6	List any two properties of a transaction.	BTL 2	Understand
7	List the different modes of lock.	BTL 1	Remember
8	What is serializability? How is it tested?	BTL 2	Understand
9	What are timestamps associated with data items?	BTL 2	Understand
10	What is a recoverable schedule?	BTL 2	Understand
11	State the need for shadow paging.	BTL 2	Understand
12	What type of locking is required for insert and delete operations?	BTL 2	Understand
13	Define deadlock.	BTL 1	Remember
14	What is meant by cascading rollback?	BTL 2	Understand
15	List the phases of two-phase locking protocol	BTL 1	Remember
16	What is a lock compatibility matrix?	BTL 2	Understand
17	List the types of serializability.	BTL 1	Remember
18	List the states of a transaction.	BTL 2	Understand
19	Differentiate strict two-phase locking protocol and rigorous two-phase locking protocol.	BTL 2	Understand
20	Define upgrade and downgrade.	BTL 1	Remember
21	What is meant by concurrency control?	BTL 2	Understand
22	What is the two-phase commit protocol?	BTL 2	Understand
23	State the four necessary conditions for deadlock.	BTL 2	Understand
24	Briefly explain cascading rollback.	BTL 2	Understand

PART-B

1	(i) Describe the ACID Properties of a transaction. (8) (ii) What benefit does rigorous two-phase locking provide? Show how does it compare with other forms of two-phase locking? (8)	BTL 4	Analyze
2	(i)What is concurrency control? Illustrate the two-phase locking protocol with an example. (8) (ii)What is conflict serializability and view serializability? Illustrate with an example. (8)	BTL-3	Apply

3	Write a short note on: i) Transaction concept. (8) (ii) Deadlock. (8)	BTL 3	Apply
4	(i)What is deadlock? How does it occur? (8) (ii)How transactions are to be written to Avoid deadlock and guarantee correct execution. Illustrate with suitable example. (8)	BTL 4	Analyze
5	(i)What is concurrency control? How is it implemented in DBMS? (8) (ii)Generalize with a suitable example. (8)	BTL6	Create
6	(i)What is two-phase locking? Explain it with suitable example. (8) (ii)Assess on how it guarantees serializability. Explain with suitable example. (8)	BTL 5	Evaluate
7	What is Concurrency? Explain it in terms of locking mechanism and two-phase Commit Protocol. (16)	BTL 4	Analyze
8	Explain Two Phase Commit and Three-Phase Commit Protocols. (16)	BTL-3	Apply
9	i) Illustrate two phase locking protocol with an example. (8) ii) Outline deadlock handling mechanisms. (8)	BTL-3	Apply
10	(i)Differentiate strict two-phase locking protocol and rigorous two-phase locking protocol. (8) (ii)How the time stamps are implemented? Explain. (8)	BTL 4	Analyze
11	(i)When is a transaction said to be deadlocked? (8) (ii)Explain the deadlock prevention methods with an example? (8)	BTL 4	Analyze
12	(i) Describe about the deadlock prevention schemes. (8) (ii)With a neat Sketch explain the states of a transaction. (8)	BTL 3	Apply
13	(i) Describe about deadlock detection. (8) (ii)Define the term Recoverable schedule and Cascade less schedules. (8)	BTL 3	Apply
14	Discuss the violations caused by each of the following: dirty read, non-repeatable read and phantoms with suitable example. (16)	BTL 4	Analyze
15	Discuss view serializability and conflict serializability. (16)	BTL 4	Analyze
16	What is concurrency? Explain in terms of locking mechanisms and two phase commit protocol. (16)	BTL-3	Apply
17	Elaborate the SQL facilities for concurrency and recovery. (16)	BTL 4	Analyze

UNIT IV IMPLEMENTATION TECHNIQUES

RAID – File Organization – Organization of Records in Files – Indexing and Hashing – Ordered Indices – B+ tree Index Files – Static Hashing – Dynamic Hashing – Query Processing Overview .– Algorithms for SELECT and JOIN operations.

PART-A

Q.No	Question	Level	Competence
1.	What is an ordered index? Give an example.	BTL 2	Understand
2.	Write about B+ tree index file.	BTL 1	Remember
3.	What is hash indexing? What is hash indexing?	BTL 2	Understand

4.	Define seek time.	BTL1	Remember
5.	State any two factors used to evaluate indexing and hashing techniques.	BTL 2	Understand
6.	Define mirroring.	BTL 1	Remember
7.	Discuss about Dense Index.	BTL 2	Understand
8.	What is an index?	BTL 2	Understand
9.	Differentiate BTree and B+Tree Index.	BTL 2	Understand
10.	Distinguish between fixed length record and variable length records?	BTL 2	Understand
11.	State any two advantages or disadvantages of RAID Level 3.	BTL 2	Understand
12.	What are the factors to be taken into account when choosing a RAID level?	BTL 2	Understand
13.	Mention all the operations of files.	BTL 1	Remember
14.	State the need for query optimization.	BTL 2	Understand
15.	Define Primary index and Secondary Index.	BTL 1	Remember
16.	When is it preferable to use a dense index rather than a sparse index?	BTL 2	Understand
17.	What is meant by query processing?	BTL 2	Understand
18.	Examine about query evaluation plan.	BTL 1	Remember
19.	Differentiate Static Hashing and Dynamic Hashing.	BTL 2	Understand
20.	List any two collision resolution techniques used in hashing.	BTL 2	Understand
21.	State any two methods to reduce bucket overflow in hash file organization.	BTL 2	Understand
22.	What is garbage collection?	BTL 2	Understand
23.	What is meant by hardware RAID and software RAID?	BTL 2	Understand
24.	What is replication transparency?	BTL 2	Understand
	PART – B		
1.	(i) Analyze the structure and working of a B+ tree in detail. (8) (ii) Illustrate and analyze the representation of a leaf node of a B+ tree of order *p*. (8)	BTL 4	Analyze
2.	(i) Illustrate ordered indices with a suitable example. (10) (ii) Apply suitable methods to implement variable-length records. (6)	BTL 3	Apply
3.	Evaluate the RAID system and explain how it improves performance and reliability. Assess RAID Level 3 and Level 4 in detail. (16)	BTL 5	Evaluate
4.	Demonstrate the structure of B+ tree and give the algorithm for search in the B+ tree with example. (16)	BTL 3	Apply

5.	Analyze query processing and optimization techniques. Examine the cost estimation methods used in query optimization. (16)	BTL 4	Analyze
6.	Analyze the different types of file organization. Compare them using neat sketches, highlighting advantages and disadvantages. (16)	BTL 4	Analyze
7.	Apply static and dynamic hashing techniques with suitable examples. (16)	BTL 3	Apply
8.	(i) Analyze the various levels of RAID systems. (8) (ii) Examine the importance of data dictionary storage in a DBMS. (8)	BTL 4	Analyze
9.	(i) Apply nested loop join and block nested loop join algorithms using simple examples. (8) (ii) Illustrate and apply the basic steps involved in query processing. (8)	BTL 3	Apply
10.	Analyze the different index schemas used in databases and their significance. (16)	BTL 4	Analyze
11.	(i)Analyze about the B+ Tree file organization in detail. (6) (ii) Identify a B+ tree to insert the following key elements (order of the tree is 3) 5, 3, 4, 9, 7, 15, 14, 21, 22, 23. (10)	BTL 4	Analyze
12.	Examine the algorithms for SELECT and JOIN operations. (16)	BTL 4	Analyze
13.	(i)Explain in detail about optimization of disk block access. (8) (ii)Generalize about mirrored (redundancy) RAID levels. (8)	BTL6	Create
14.	(i) Illustrate and apply various indexing techniques with suitable examples.(8) (ii) Apply hashing techniques and explain their working. (8)	BTL3	Apply
15.	Evaluate why indices are not maintained on several search keys despite improving query performance. Provide suitable justification. (16)	BTL 5	Evaluate
16.	Construct B-Tree and B+-Tree of order 3 by inserting the keys 32, 11, 15, 13, 7, 22, 15, 44, 67, 4. (16)	BTL6	Create
17.	Design an extendable hashing structure for the keys 1, 3, 5, 8, 9, 12, 17, 28 using hash function *h(x) = x mod 8*, where each bucket holds three records. (16)	BTL 5	Evaluate

UNIT - V ADVANCED TOPICS

Distributed Databases: Architecture, Data Storage— Object–based Databases: Object Database Concepts, Object–Relational features, ODMG Object Model, ODL, OQL — XML Databases: XML Hierarchical Model, DTD, XML Schema, XQuery — Information Retrieval: IR Concepts, Retrieval Models, Queries in IR systems.

PART A

Q. No	Questions	Level	Competence
1.	What is a distributed database system?	BTL 1	Remember

2.	Define the term "distributed database architecture"	BTL 2	Understand
3.	List out the key issues in distributed database management systems?	BTL 2	Understand
4.	What is a distributed transaction?	BTL 1	Remember
5.	What is the advantages of a distributed database over a centralized one?	BTL 1	Remember
6.	Define the term "distributed query processing" in distributed databases.	BTL 2	Understand
7.	List out the CAP theorem in distributed databases?	BTL 2	Understand
8.	What is an object-oriented database?	BTL 1	Remember
9.	What is the ODMG object model?	BTL 1	Remember
10.	Write a brief note on retrieval models.	BTL 2	Understand
11.	List the advantages of OODB.	BTL 1	Remember
12.	Differentiate the object-oriented databases and relational databases.	BTL 2	Understand
13.	State the XML hierarchical model.	BTL 1	Remember
14.	Explain how object identity is managed in an object database.	BTL 2	Understand
15.	What are the advantages of using object-relational databases	BTL 1	Remember
16.	Define an XML database?	BTL 2	Understand
17.	What is Document Type Definition (DTD) in XML?	BTL 2	Understand
18.	What is the purpose of XQuery in XML databases	BTL 2	Understand
19.	What is Information Retrieval (IR)?	BTL 1	Remember
20.	Define the Boolean model in Information Retrieval?	BTL 1	Remember
21.	What is the significance of query expansion in IR?	BTL 2	Understand
22.	List the different types of document indexing in IR systems.	BTL 1	Remember
23.	Explain the role of the Latent Semantic Indexing (LSI) model in IR.	BTL 2	Understand
24.	Explain the vector space model in Information Retrieval.	BTL 2	Understand
	PART B		
1.	Design a distributed database for a multi-office company and analyze how fragmentation, replication, and concurrency control affect performance.(16)	BTL 4	Analyze
2.	Design a library management system using an object-oriented database and evaluate its advantages over a relational model. (16)	BTL 3	Apply
3.	Compare object-oriented and object-relational databases and synthesize improvements for relational systems. (16)	BTL 4	Analyze
4.	Demonstrate in detail about: (i)Information Retrieval. (8) (ii)Transaction processing. (8)	BTL 3	Apply
5.	Differentiate Document Type Definition and XML schema with suitable example. (16)	BTL 4	Analyze
6.	i) Point out the usage of OQL, the DMG's query language. (8) ii) Analyze the methods to store XML documents. (8)	BTL 4	Analyze
7.	Describe about object database concepts. (16)	BTL 3	Apply
8.	Discuss whether Crawling and indexing is more recommended than Relevance ranking in information retrieval. Justify your answer.(16)	BTL 4	Analyze
9.	i)Compare homogeneous and heterogeneous databases. (8)	BTL 4	Analyze

	ii)Explain about distributed data storage. (8)		
10.	Explain in detail about Ranking Using TF-IDF. (16)	BTL 4	Analyze
11.	Summarize about OQL with your own example. (16)	BTL 5	Evaluate
12.	Generalize your view about the hierarchical data model in XML. (16)	BTL6	Create
13.	Suppose that you have been hired as a consultant to choose a database system for your client's application. For each of the following applications, state what type of database system (relational, persistent programming language–based OODB, object relational; do not specify a commercial product) you would recommend. Justify your recommendation and Generalize your view. (i) A computer-aided design system for a manufacturer of airplanes.(6) (ii) A system to track contributions made to candidates for public office.(5) (iii) An information system to support the making of movies.(5)	BTL6	Create
14.	Give XML representation of University database system and also explain about DTD and XML schema. (16)	BTL 5	Evaluate
15.	(i)Discuss on distributed transaction. (8) (ii)Examine discretionary access control based on granting and revoking privileges. (8)	BTL 3	Apply
16.	(i)Write the features of Object relation with example. (8) (ii)Examine XML in detail. (8)	BTL 3	Apply
17.	Analyze about the DTD for an XML representation of the following nested-relational schema. Emp = (ename, ChildrenSetsetof(Children), SkillsSetsetof(Skills)) Children = (name, Birthday) Birthday = (day, month, year) Skills = (type, ExamsSetsetof(Exams)). Exams = (year, city)	BTL 4	Analyze